

FIGURE 1

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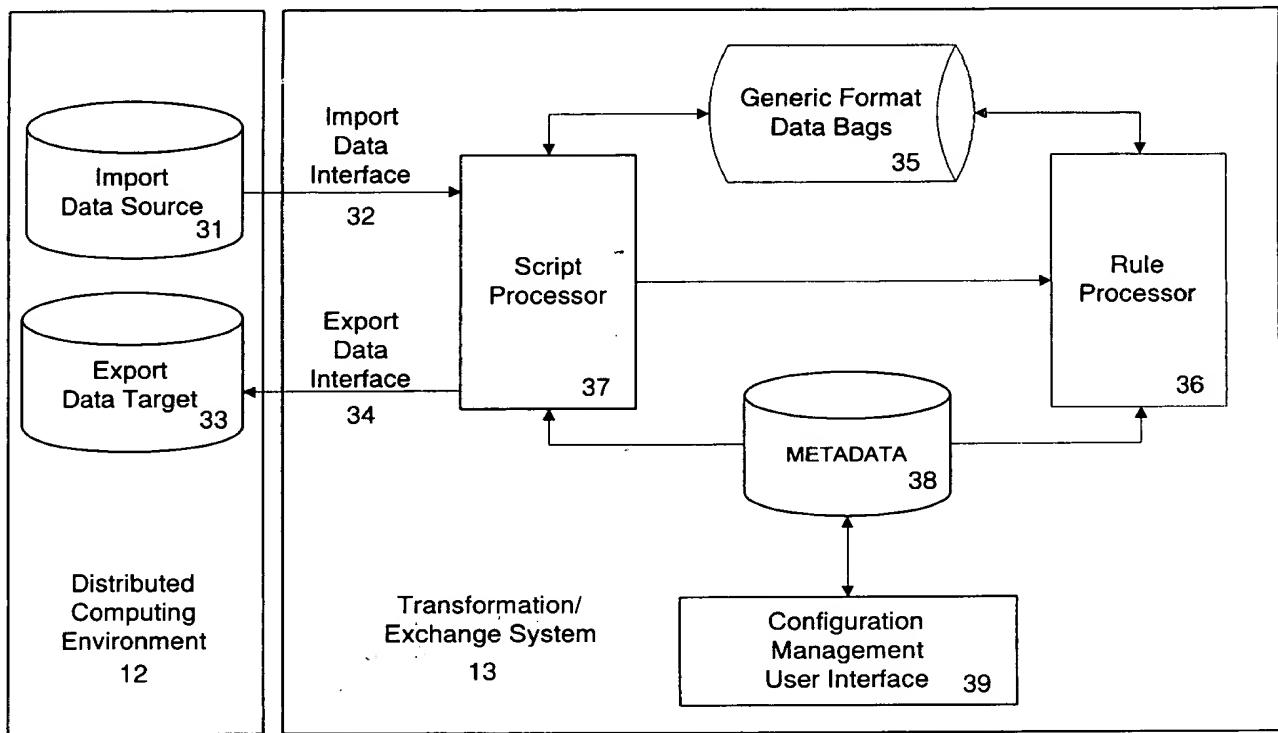


FIGURE 2

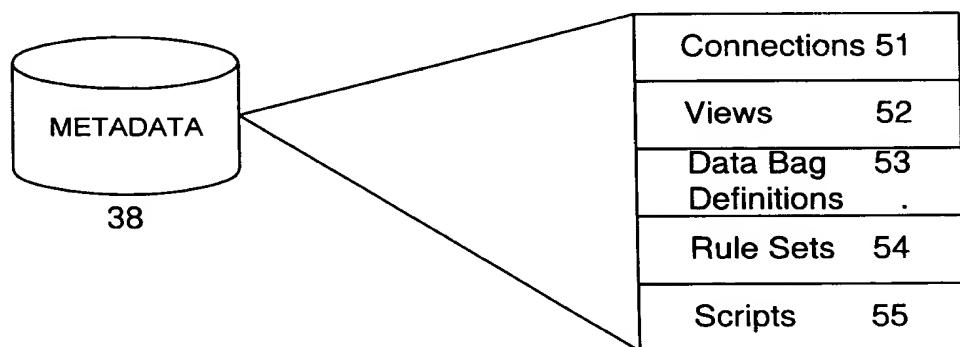
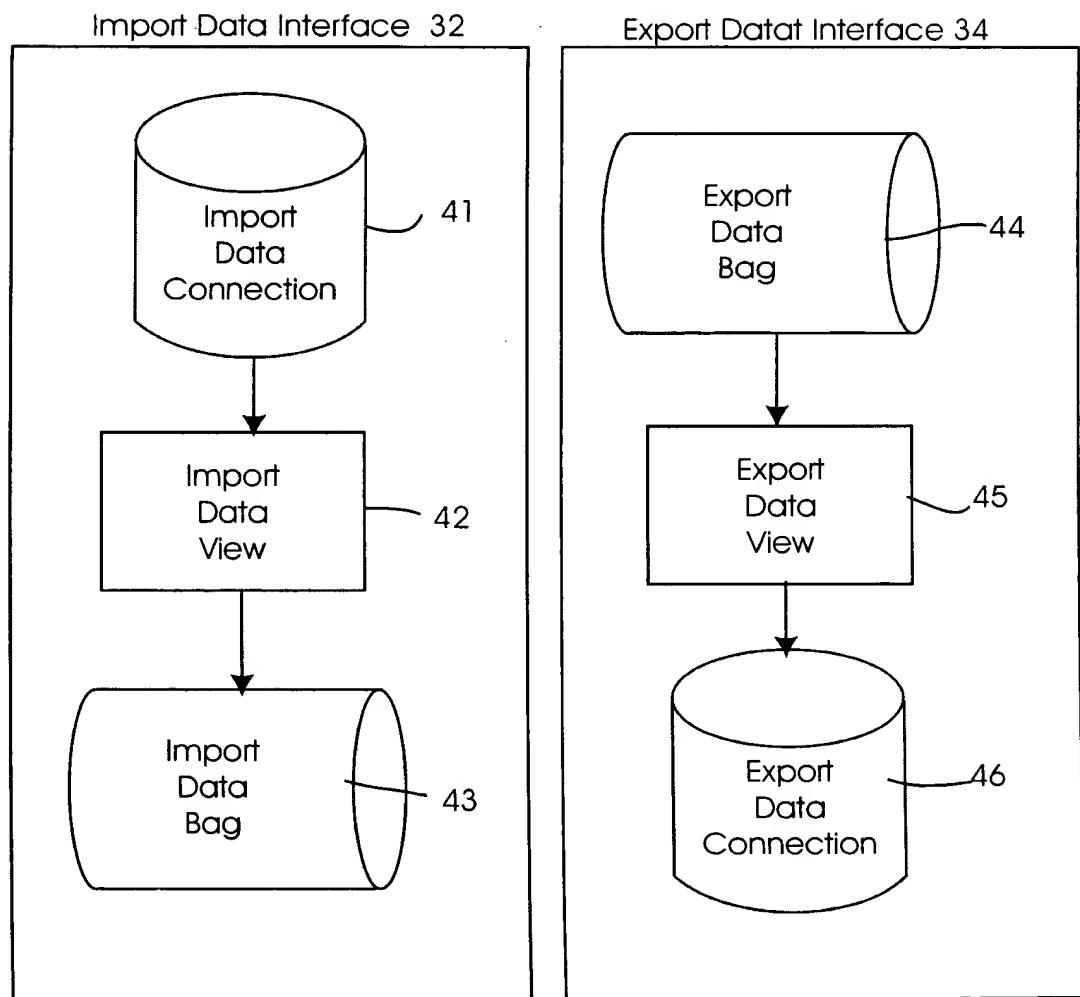


FIGURE 3



**FIGURE 4**

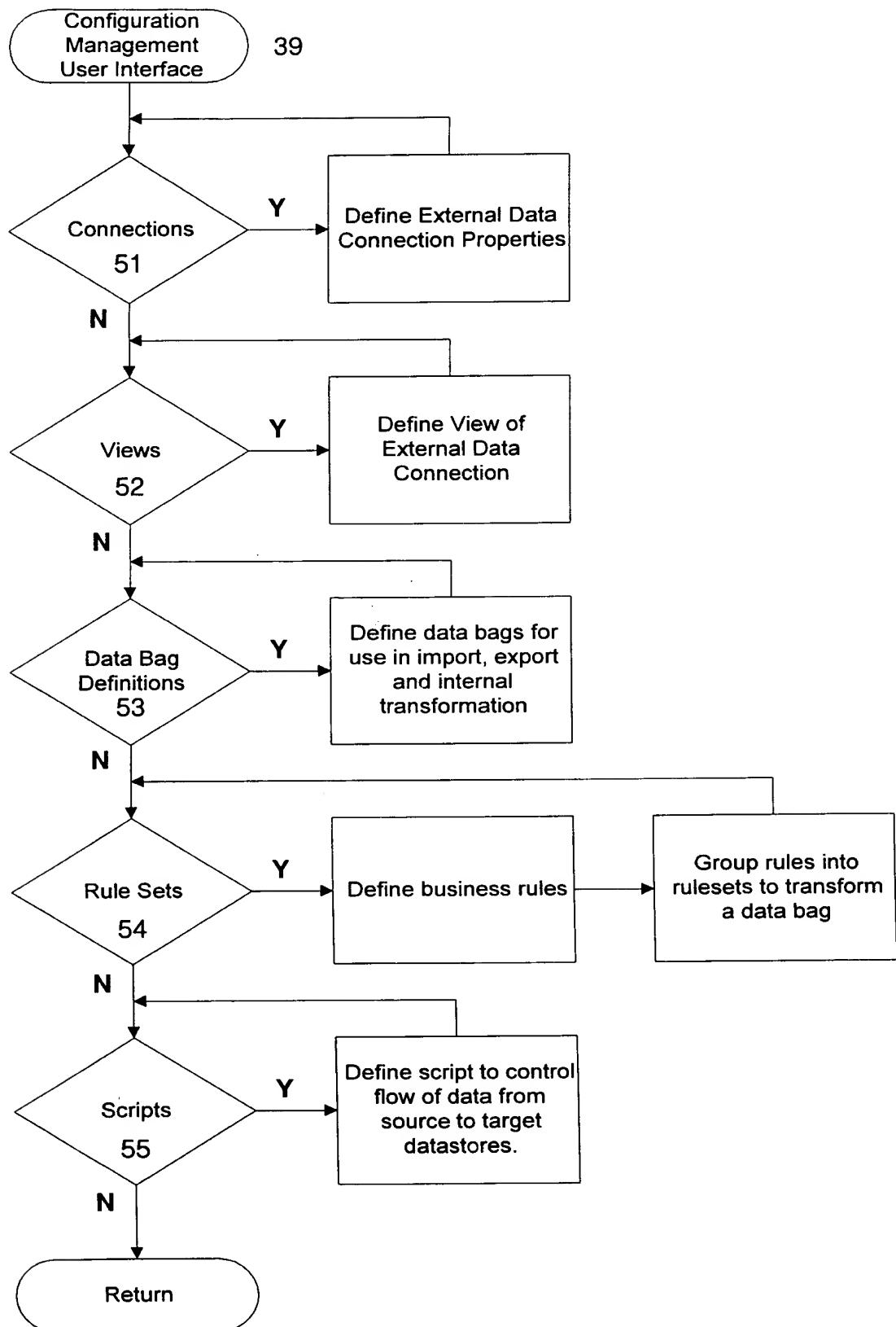


FIGURE 5

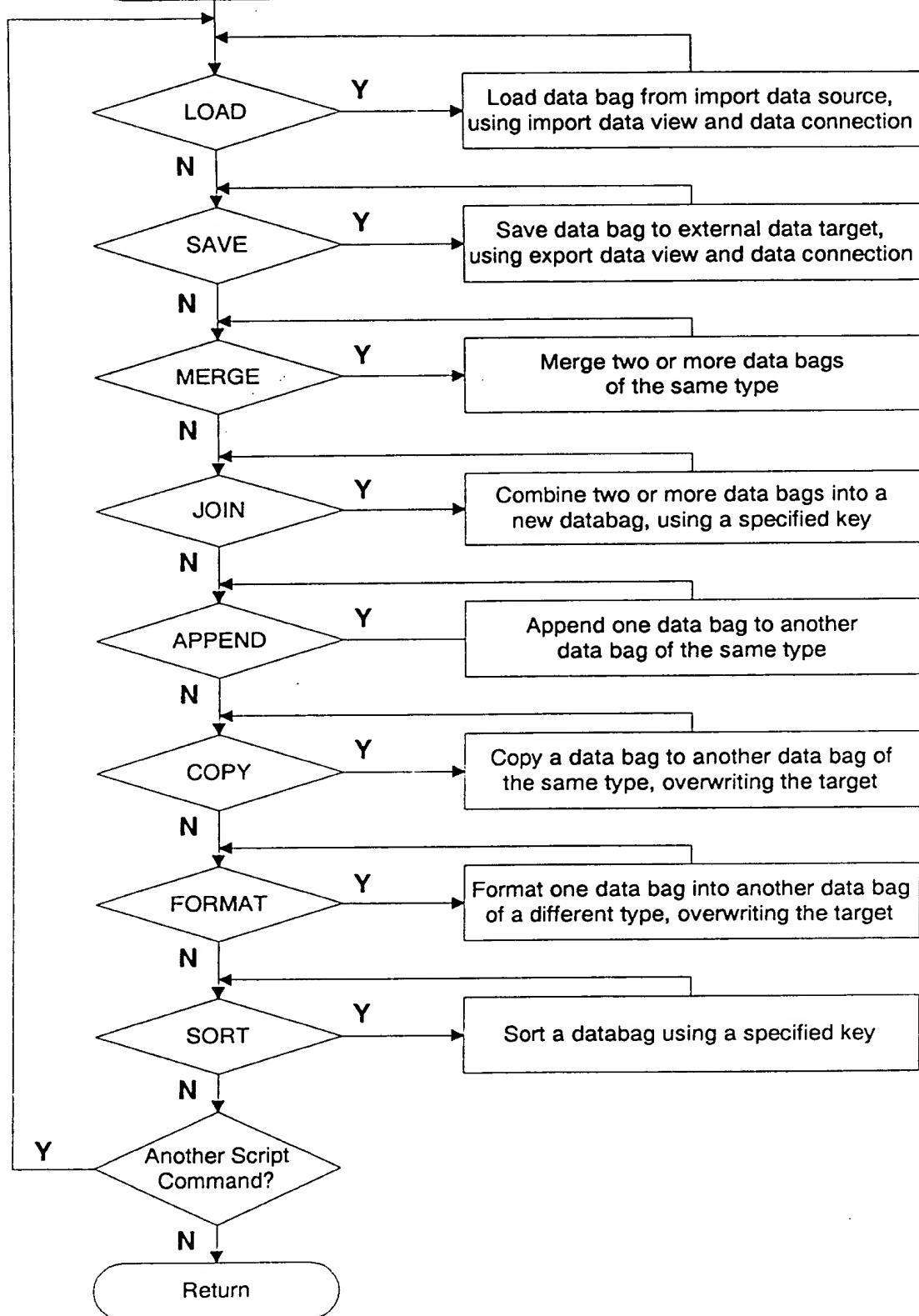


FIGURE 6

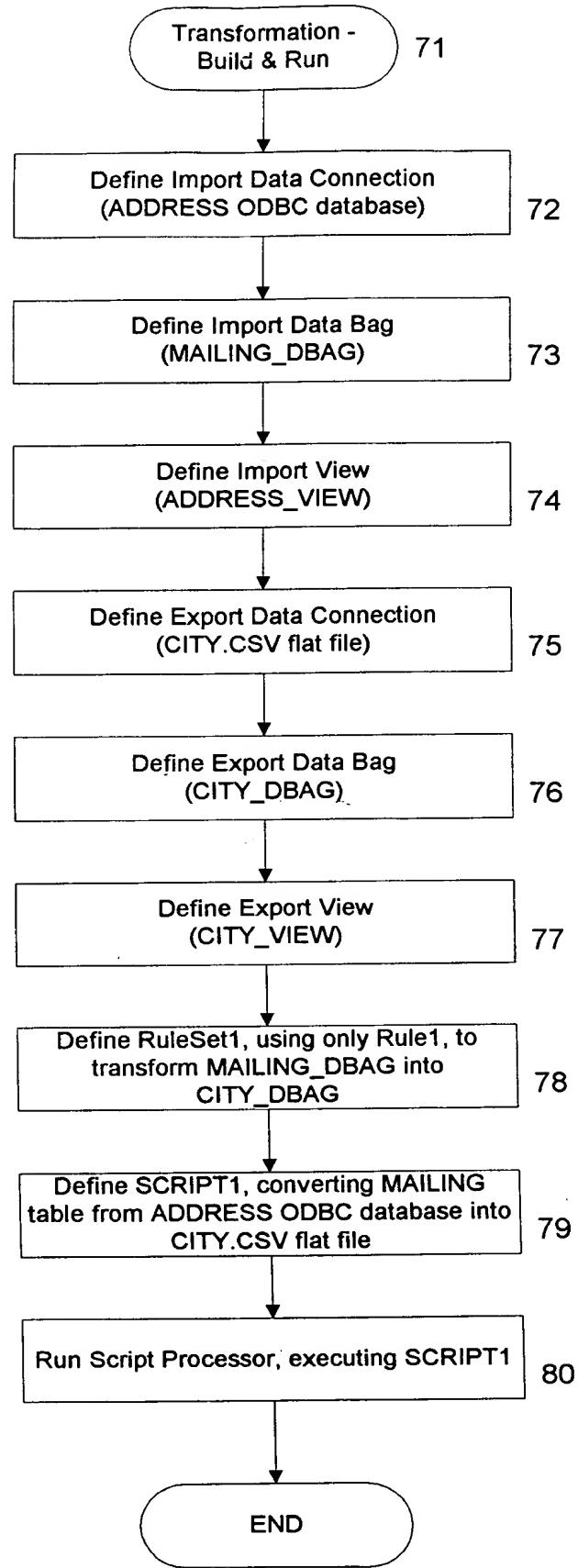


FIGURE 7

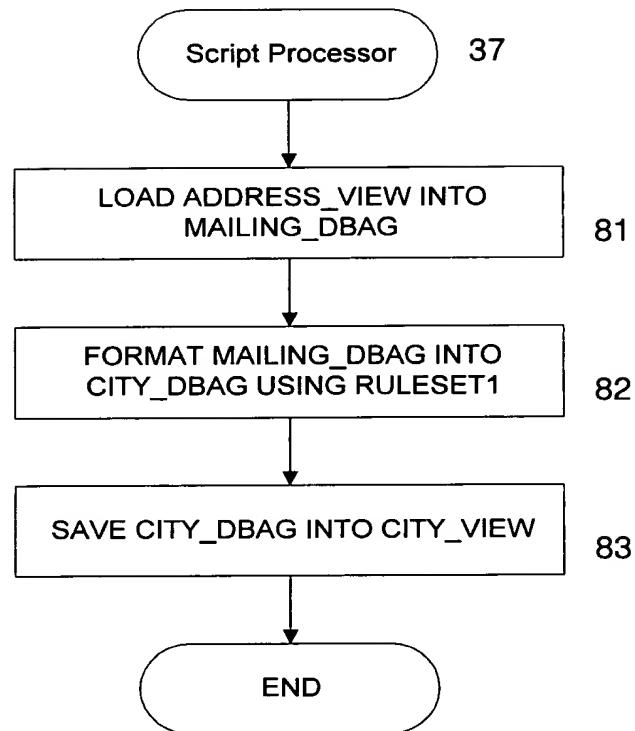


FIGURE 8

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IF IN.CITY = "OTTAWA"  
    OUT.NAME = APPEND( IN.FIRST_NAME, " ", IN.LAST_NAME )  
    OUT.ADDR = IN.ADDR  
    OUT.CITY = IN.CITY  
    OUT.AGE = IN.AGE  
END IF
```

FIGURE 9

ODBC database : ADDRESS.MDB 101

FIRST_NAME	LAST_NAME	ADDRESS	CITY	COUNTRY	AGE
Bob	Drake	10 Penny St.	Toronto	CA	29
Susan	Hellman	55 Birch Rd.	Ottawa	CA	35
John	Bull	101 Pullman Ave.	New York	US	23
Josef	Karsch	31 Rideau St.	Ottawa	CA	85

FIGURE 10

Data Bag : MAILING\_DBAG 111

DATA DEFINITION COLLECTION 112						
KEY	ITEM NAME	ITEM TYPE	PARENT	MAX. OCCURS	ITEM COUNTER	LEVEL
FIRST_NAME	FIRST_NAME			1		1
LAST_NAME	LAST_NAME			1		1
ADDRESS	ADDRESS			1		1
CITY	CITY			1		1
COUNTRY	PROV			1		1
AGE	AGE			1		1

DATA GROUP COLLECTION 113							
KEY	VALUE	KEY	VALUE	KEY	VALUE	KEY	VALUE
FIRST_NAME	Bob	FIRST_NAME	Susan	FIRST_NAME	John	FIRST_NAME	Josef
LAST_NAME	Drake	LAST_NAME	Hellman	LAST_NAME	Bull	LAST_NAME	Karsch
ADDRESS	10 Penny St.	ADDRESS	55 Birch Rd.	ADDRESS	101 Pullman Ave	ADDRESS	31 Rideau St.
CITY	Toronto	CITY	Ottawa	CITY	New York	CITY	Ottawa
COUNTRY	CA	COUNTRY	CA	COUNTRY	US	COUNTRY	CA
AGE	29	AGE	35	AGE	23	AGE	85

FIGURE 11

Data Bag : CITY\_DBAG

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DATA DEFINITION COLLECTION 122

KEY	ITEM NAME	ITEM TYPE	PARENT	MAX. OCCURS	ITEM COUNTER	LEVEL
NAME	NAME	TEXT		1		1
ADDRESS	ADDRESS	TEXT		1		1
CITY	CITY	TEXT		1		1
AGE	AGE	INTEGER		1		1

DATA GROUP COLLECTION 113

KEY	VALUE	KEY	VALUE
FIRST_NAME	Susan	FIRST_NAME	Josef
LAST_NAME	Hellman	LAST_NAME	Karsch
ADDRESS	55 Birch Rd.	ADDRESS	31 Rideau St.
CITY	Ottawa	CITY	Ottawa
COUNTRY	CA	COUNTRY	CA
AGE	35	AGE	85

FIGURE 12

Delimited Flat File : CITY.CSV

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Susan Hellman,55 Birch Rd,Ottawa,35
Josef Karsch,31 Rideau St,Ottawa,85

FIGURE 13

FIRST_NAME	CHAR(30)
LAST_NAME	CHAR(30)
ADDR_LINE1	CHAR(30)
ADDR_LINE2	CHAR(30)
CITY	CHAR(30)
PROV	CHAR(3)
NBR_CHILDREN	INTEGER(3)
CHILDREN	OCCURS 1 TO 10 TIMES
CHILD_NAME	CHAR(30)
CHILD_AGE	INTEGER(3)

FIGURE 14

Repeating Data File : REPEAT.TXT 151

Henry	Smith	61 Falldown Rd.	RR1	Greely	Ont	3	Amy	16	John	13	Bob	23
John	Kierstead	1034 Ayr Place	Apt. 132	Ottawa	Ont	1	Susan	10				

FIGURE 15

Data Bag : REPEATING\_DBAG 161

DATA GROUP DEFINITION 162

KEY	ITEM NAME	ITEM TYPE	PARENT	MAX. OCCURS	ITEM COUNTER	LEVEL
FIRST_NAME	FIRST_NAME	TEXT		1		1
LAST_NAME	LAST_NAME	TEXT		1		1
ADDR_LINE1	ADDR_LINE1	TEXT		1		1
ADDR_LINE2	ADDR_LINE2	TEXT		1		1
CITY	CITY	TEXT		1		1
PROV	PROV	TEXT		1		1
NBR_CHILDREN	NBR_CHILDREN	INTEGER		1		1
CHILDREN	CHILDREN	GROUP		1		1
CHILDREN[1].CHILD_NAME	CHILD_NAME	TEXT	CHILDREN	10	NBR_CHILDREN	2
CHILDREN[1].CHILD_AGE	CHILD_AGE	INTEGER	CHILDREN	10	NBR_CHILDREN	2

DATA GROUP COLLECTION 163

FIRST_NAME	Henry	FIRST_NAME	John
LAST_NAME	Smith	LAST_NAME	Keirstead
ADDR_LINE1	61 Falldown Rd.	ADDR_LINE1	1034 Ayr Place
ADDR_LINE2	RR1	ADDR_LINE2	Apt. 132
CITY	Greely	CITY	Ottawa
PROV	Ont	PROV	Ont
NBR_CHILDREN	3	NBR_CHILDREN	1
CHILDREN[1].CHILD_NAME	Amy	CHILDREN[1].CHILD_NAME	Susan
CHILDREN[1].CHILD_AGE	16	CHILDREN[1].CHILD_AGE	10
CHILDREN[2].CHILD_NAME	John		
CHILDREN[2].CHILD_AGE	13		
CHILDREN[3].CHILD_NAME	Bob		
CHILDREN[3].CHILD_AGE	23		

FIGURE 16

```
FOR CHILD_NDX = 1 TO NBR_CHILDREN
    IF CHILDREN[ CHILD_NDX ].CHILD_AGE < 20
        OUT.PARENT = APPEND( IN.FIRST_NAME, " ", IN.FIRST_NAME )
        OUT.CHILD_NAME = IN.CHILDREN[ CHILD_NDX ].CHILD_NAME
        OUT.CHILD_AGE = IN.CHILDREN[ CHILD_NDX ].CHILD_AGE
    END IF
END FOR
```

FIGURE 17